

**REMARKS**

Claims 46-146 were pending at the time the present Office Action was mailed. By this amendment, claims 50, 81, 87, 94, 99, 119, 122, 131, and 135 have been amended. Claims 46-146 remain pending in the present application.

The following is a summary of the Office Action and associated objections and rejections.

(A) Claims 46-146 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,443,726.

(B) Claim 50 was rejected under 35 U.S.C. § 112, second paragraph as being indefinite.

(C) Claims 50-54 were rejected under 35 U.S.C. § 103(a) for being unpatentable over French Patent No. 2629178 (Arribas) in view of UK Patent Application No. 2 334 328 (Shimek GB '328), UK Patent Application No. 2 068 106 (Rosiek) and UK Patent Application No. 2 035 545 (Palau).

(D) Claims 46-49, 55, 56, 59, 61-75, 79-92, 94-96, 98-104, 106-125, 128-135, and 139-146 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimek GB '328 in view of Rosiek, Palau and Arribas.

(E) Claims 60, 78, 93, 126, 127 and 136-138 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimek GB '328 in view of Rosiek, Palau and Arribas, and further in view of U.S. Patent No. 5,941,237 (Shimek et al.) or U.S. Patent No. 4,726,351 (Whittaker).

(F) Claims 57, 76, 77, and 105 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimek GB '328 in view of Rosiek, Palau and Arribas, and further in view of U.S. Patent No. 5,046,944 (Smith).

A. Double Patenting Rejection

In the Office Action, the Examiner rejected claims 46-146 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 6,443,726. In an effort to expedite prosecution, and without acquiescing to the basis or validity of the double patenting rejection, Applicants hereby submit a Terminal Disclaimer with respect to U.S. Patent No. 6,443,726. In view of the Terminal Disclaimer, Applicants respectfully submit that the rejection for double patenting of claims 46-146 has been overcome and request that the Examiner withdraw the rejection.

B. Rejection of Claim 50 under 35 U.S.C. § 112, Second Paragraph

The Examiner rejected claim 50 under 35 U.S.C. § 112, second paragraph because of the word "means" following "guide." In an effort to expedite prosecution, and without acquiescing to the basis or validity of the rejection, Applicants have amended claim 50 to refer to an "alignment guide," rather than a "guide means." In view of the above, Applicants respectfully request that the Examiner withdraw the rejection.

C. Rejection of Claims 50-54 under 35 U.S.C. § 103(a)

The Examiner rejected claims 50-54 under 35 U.S.C. § 103(a) as being unpatentable over Arribas, in view of Shimek GB '328, Rosiek, and Palau. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970).

Further, "the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP § 2143.. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Claim 50 is directed to a burner assembly having a non-metallic burner body with a lower portion sealably coupled to the base to form a recessed interior gas distribution chamber configured to receive fuel gas therein from the gas source. An upper portion of the burner body has a contoured surface that simulates coal members, and the contoured surface has a substantially flat portion forming a simulated-log-support surface adjacent to the simulated coal members. The burner body has gas distribution apertures of different heights positioned to direct the fuel gas to the contoured surface for ignition. The burner body is constructed of a material that glows at selected color variations in the simulated coal members to simulate a burning and glowing coal ember bed in the base of a fire when the fuel gas is ignited adjacent to the contoured surface. A simulated log is supported on the burner body by the simulated-log-support surface adjacent to the simulated coal bed. The simulated-log-support surface on the upper portion has an alignment guide configured to align the simulated log relative to the upper portion of the burner body.

Applicants respectfully submit that the four applied references, taken alone or in combination, can not support an obviousness rejection of the claims. Arribas is directed to a decorative gas fire burner supported on a burner pan. Arribas describes and illustrates three embodiments. The burner of the embodiment described and illustrated in Figures 1-4 has an upper portion 3 with integrally formed, simulated logs 2a and 2b connected to the upper portion. This embodiment does not provide a burner body having a substantially flat portion forming a simulated-log-support surface adjacent to simulated coal members. The only teaching in Arribas of a simulated coal bed is in connection with Figure 7. This simulated coal bed, however, is not combined with the simulated logs. To the contrary, the

simulated coal bed is a removable member that can be interchanged with the removable simulated logs of the embodiment shown in Figures 5 and 6.

The removable ember bed of Figure 7 does not have a substantially flat portion forming a simulated-log-support surface adjacent to simulated to coal members. In addition, the removable ember bed of Arribas does not include an alignment guide configured to align a simulated log relative to the upper portion of the burner body. The other three references do not correct the deficiencies of Arribas. The only teaching of such a construction is provided by the present application. Even if the four references could be combined, such a combination would not teach or suggest each and every feature of the burner assembly as a whole as set forth in claim 50. Further, any modification to the teachings of four references to provide the claimed burner assembly would only be apparent to one skilled in the art after fully understanding the present invention and applying impermissible hindsight analysis while using the present application as a blueprint for piecemeal construction. Therefore, Applicants respectfully submit that independent claim 50 is patentable over the applied references and is in condition for allowance.

Claims 51-54 depend from claim 50. At least for the reasons discussed above, Applicants respectfully submit that these dependent claims are patentable over the cited references and are in condition for allowance.

D. Rejection of Claims 46-49, 55, 56, 58, 59, 61-75, 79-92, 94-96, 98-104, 106-125, 128-135, and 139-146 under 35 U.S.C. § 103(a)

The Examiner rejected claims 46-51, 55, 56, 58, 59, 61-75, 79-92, 94-96, 98-104, 106-125, 128-135 and 139-146 under 35 U.S.C. § 103(a) as being unpatentable over Shimek GB '328 in view of Rosiek, Palau, and Arribas. Applicants respectfully submit that the four applied references can not support a *prima facie* obviousness rejection of the claims.

Claim 46 is directed to a burner assembly that includes, *inter alia*, a burner body having upper and lower portions. The burner body has gas distribution apertures extending from the lower portion to the contoured surface. A first set of the gas distribution apertures extends through the burner body to the first recessed gas distribution chamber portion, and a second set of distribution apertures extends through the burner body to the second recessed gas distribution chamber portion. The gas distribution apertures direct a flow of the fuel gas to the contoured upper surface for ignition in a gas fireplace unit. The first set of gas distribution apertures and the first recessed gas distribution chamber portion are configured to provide a first flow rate of fuel gas through the burner body for ignition and a first flame characteristic. The second set of gas distribution apertures and the second recessed gas distribution chamber portion being configured to provide a second flow rate of fuel gas through the burner body for ignition and a second flame characteristic different from the first flame characteristic for the fire in the gas fireplace unit.

The four references taken alone or in combination do not teach or suggest the burner assembly as set forth in claim 46. To the contrary, Shimek GB '328 is directed to a dual-purpose indoor/outdoor portable gas burner that "may be used in a fireplace as a burner, or on a deck as a campfire or a grill and/or as a portable and storable campfire grill." Page 2, lines 2-5. See also page 2, lines 8-11. Shimek GB '328 specifically distinguishes its multi-function burner from prior art units because such prior art "units are not useable as a grill or as a gas burner system for a gas fireplace, thus, are single purpose fireplace units." Page 1, lines 24-26. Accordingly, this reference teaches a stand-alone multi-function burner. Shimek GB '328 also teaches the use of hollow ceramic fiber top with "a pattern of burner jets and supporting structure which surrounds the H-shaped gas manifold area 13....The jet pattern for any particular gas system or burner unit may have different size jets for producing more efficient burning. Tests have shown that some patterns of holes and sizes are more efficient than others" (emphasis added). Page 8, lines 23-31. Shimek GB '328 further states that the "pattern of burner jets 24 create one desired flame pattern" (emphasis added). See Abstract. Accordingly, Shimek GB '328

specifically teaches and suggests providing a multi-purpose burner configured to provide one desired flame pattern, wherein the burner has a configuration to achieve consistent efficient burning within flame pattern in a manner suitable for use as a grill or a stove cooking unit or a camp fire.

Shimek GB '328 does not teach or suggest a burner assembly having a first set of gas distribution apertures and a first recessed gas distribution chamber portion configured to provide a first flow rate of fuel gas through the burner body for ignition and a first flame characteristic, and having a second set of gas distribution apertures and a second recessed gas distribution chamber portion configured to provide a second flow rate of fuel gas through the burner body for ignition and a second flame characteristic different from the first flame characteristic for the fire in the fireplace unit. The other three references do not correct this deficiency in the primary reference. The only teaching or suggestion of a burner assembly with such a configuration is provided in the present application.

The Examiner states in the Office Action that "the H-shaped manifold (13; figure 9) shows the first set of apertures to be randomly positioned along the surface of their respective manifold H-shaped sections. It is further noted that the number of apertures in the first set is shown to be different from the number apertures of the second set. Because the apertures of the first set of apertures and the second set of apertures are differently distributed along the gas supply manifold and differ in number the flow rated of fuel flowing through respectively by the first set and second set of apertures would necessarily be different and any flame(s) produce by the first set of apertures would necessarily be characteristically different from any flames produced by the second set of apertures." Page 9; Office Action. Applicants respectfully disagree with the Examiner's characterization of the reference.

Shimek GB '328 is silent regarding a relationship between gas distribution apertures and recessed gas distribution chamber portions so as to provide different flow rates of fuel gas through the burner body for ignition and to provide different flame characteristics. To

the contrary, Shimek GB '328 teaches jet patterns with different sized jets to achieve efficient burning suitable for use as a grill, a cooking fire, or fireplace. Therefore, if the jets are randomly positioned with different numbers of jets in different areas, Shimek GB '328 suggests that different sized jets are used to achieve the efficient burning of the gas for consistent flame characteristics, as is desired for a cooking fire.

Shimek GB '328 provides no suggestion of a burner assembly specifically configured as claimed to provide first and second flow rates of fuel gas through the burner body for ignition and first and second flame characteristics different from each other to achieve the appearance of a natural wood-burning fire. In fact, the reference teaches away from such a configuration as claimed to intentionally provide consistent flame characteristics from the different burner apertures. The other three cited references do not correct the deficiency of the primary reference. For example, Rosiek emphasizes that, for continuous uniformity of flames at least three gas/air mix feed bores must be provided in the minimum 7 mm space in between the supports for the coal or log elements. Modifying the teaching of these references to provide the claimed burner assembly would destroy the intended function of the burners to provide consistent flame characteristics. Accordingly, the cited references alone or in combination do not teach or suggest all the claim limitations of the claimed invention taken as a whole. Therefore, Applicants respectfully submit that claims 46-49 are patentable over the cited references and are in condition for allowance.

Claims 55, 56, 58, 59, and 61-63 are also patentable over the combination of four references at least for the above reasons. Regarding claim 55, the burner assembly has a burner pan, a spacer, and a burner body having upper and lower portions. The lower portion of the burner body is sealably coupled to the burner pan, and the lower portion of the burner body is supported apart from the burner pan by the spacer to form an interior gas distribution chamber between the burner pan and the burner body. Claim 55 has been amended to clarify that the lower portion of the burner body is sealably coupled to the spacer. The lower portion of the spacer has edge portions separate from the spacer and

spaced apart from the burner pan. None of the applied references teach such a burner assembly with a spacer as set forth in claim 55. Shimek GB '328 is simply silent with respect to such a configuration.

In the Office Action, the Examiner asserted that the hollow ceramic fiber top of Shimek GB '328 has a spacer (which is not referenced or discussed in the document) because the hollow member has a downward extending perimeter portion that is adhesively bonded to the base. Applicants respectfully submit, however, that Shimek GB '328 does not teach or suggest a spacer as claimed wherein the spacer supports the ceramic fiber top apart from the base. The ceramic top of Shimek GB '328 is in fact adhered to the base. The reference also fails to teach or suggest a spacer sealably coupled to a burner body wherein the burner body has edge portions separate from the spacer and spaced apart from the burner pan by the spacer. Neither Shimek GB '328 nor any of the other three references, taken alone or in combination, teach or suggest, the burner assembly as claimed.

The Examiner also stated that Shimek GB '328 teaches applying "a gasket forming silicon adhesive (25) positioned between the burner body (12) and base (11, 11A; "a bead of adhesive is applied around the area close to the outside perimeter of the top unit). That is, the gasket forming silicon adhesive, necessarily having a given thickness, . . . is the structural and functional equivalent to applicant broadly claimed "spacer." The Examiner further characterized the adhesive disclosed in Shimek GB '328 as being a "gasket forming silicon adhesive." Applicants respectfully disagree with the Examiner's interpretation and characterization of Shimek GB '328. Nowhere does the reference teach or suggest that the silicon adhesive is a "gasket forming silicon adhesive" or that the adhesive acts as a spacer.

Shimek GB '328 refers to the adhesive in only three places: 1) "The ceramic fiber top 12 is preferably permanently attached to the base unit 11 by a high temperature silicon adhesive 25." Page 5, line 9; 2) "In the preferred embodiment, a bead of adhesive is



applied around the manifold area close to the outside parameter of the top unit 12 before it is attached to either the base unit 11A or a base unit 11. Preferably the same adhesive is used to seal around the gas pipe 14 when it is connected to the recessed area 12B." Page 9, lines 7-13; and 3) "A portable gas burner as set forth in Claim 1 wherein said means for connecting and sealing said base unit to said ceramic fiber top comprises a high temperature silicon adhesive." Page 11, claim 3. These three descriptions of the adhesive do not state or even suggest that the adhesive acts as a spacer that supports a lower portion of a burner body apart from a burner pan to form an interior gas distribution chamber between the burner pan and the burner body. While the Examiner asserts that a bead of silicon adhesive can have a thickness so as to act as a spacer, the Shimek GB '328 simply provides no suggestion or motivation to modify the adhesive to have a sufficient thickness to act as a spacer as claimed. The mere fact that a prior art reference can be modified to provide the apparatus as claimed does not render the apparatus obvious. There must be a suggestion or motivation in the reference to make such a modification. MPEP § 2143.01, III.

The other three references do not correct the deficiencies of Shimek GB '328. Rosiek teaches providing a plate-like member supported atop the plenum. Palau is silent regarding how the heating plates are mounted. Arribas is similarly silent regarding providing an adhesive with sufficient thickness to act as a spacer. The only teaching or suggestion of a burner assembly as claimed is provided by the present application. Accordingly, the combination of references still does not provide each and every element of the burner assembly as recited in claim 55. Therefore, Applicants respectfully submit that claim 55 is patentable over the applied references and is in condition for allowance.

Claims 56, 58, 59, 61-63, 145, and 146 depend from claim 55. For the above reasons and the features of the claims, these dependent claims are patentable over the applied references and are in condition for allowance.

Claim 64 is directed to a burner assembly having a base, a spacer adjacent to the base, and a burner body with a lower portion of the burner body spaced apart from the base by the spacer to form an interior gas distribution chamber therebetween. Further, the lower portion of the burner body has a flat undersurface portion generally parallel to the base of the burner pan and the lower portion has a recessed underportion spaced apart from the burner pan's base and recessed from the burner body's flat undersurface portion. The recessed underportion defines a portion of the gas distribution chamber. The burner pan is constructed of a material that glows at selected color variations when the fuel gas is ignited adjacent to the contoured surface. The combination of the resulting flame and the burner body with the simulated coal bed that glows at selected color variations creates a fire with a more realistic appearance of a wood-burning fire that has not been achieved by the prior art.

None of the applied references, taken alone or in combination, disclose or teach a burner assembly with the burner body as set forth in claim 64 for the reasons discussed above. Neither Shimek GB '328 nor any of the other references provide a teaching or suggestion of the use of a spacer in conjunction with a burner body as set forth in claim 64 to form the claimed interior gas distribution chamber. The references are simply silent regarding such a configuration. The only teaching or suggestion of the claimed burner assembly is provided in the present application. Even if the references could be modified to provide the burner assembly as claimed, there is no teaching or suggestion in the references to make such a modification. Any modification of the references to provide the claimed burner assembly would only be apparent to one skilled in the art after fully understanding the present invention and applying impermissible hindsight analysis, while using the present application as a blue print for such construction.

The Examiner stated in the Office Action that hindsight reconstruction of the prior art to support an obviousness rejection is appropriate so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicants disclosure. The

Examiner's analysis and reconstruction of the prior art references does in fact include knowledge gleaned only from Applicants' disclosure. None of the references teach or suggest, *inter alia*, supporting a burner body, which has a recessed undersurface portion, away from the base by a spacer so as to define an interior gas distribution chamber. Accordingly, the Examiner's use of hindsight analysis and construction is improper. Therefore, for the reasons discussed above and the features in the claim, Applicants respectfully submit that claim 64 is patentable over the applied references and is in condition for allowance.

Dependent claims 65-69 depend from claim 64. For the above reasons and the features of these claims, these dependent claims are also patentable over the applied references and are in condition for allowance.

Claim 70 is directed to a burner assembly having a burner body spaced apart from the base forming a sealed interior gas distribution chamber with first and second chamber portions. A first set of gas distribution apertures is in communication with the first chamber portion and is configured to provide a first flow rate of fuel gas to the contoured surface for ignition in a first flame characteristic. A second set of gas distribution apertures is in communication with the second chamber portion and is configured to provide a second flow rate of fuel to the contoured surface for ignition and a second flame characteristic different than the first flame characteristic. For the reasons discussed above, the four applied references do not teach or suggest each and every feature of claim 70. The Examiner's assertion that aspects of the burner assembly are necessarily present in the teachings of the prior art is not supported by the applied references, also discussed above. The combination of references as asserted by the Examiner would still not provide the claimed burner assembly. Any modification of the references to provide the burner assembly of claim 70 would only be apparent with the benefit of impermissible hindsight analysis. Therefore, claim 70 is allowable over the applied references and is in condition for allowance.

Claims 71 and 72 depend from claim 70. For the above reasons and the features of the claims, these dependent claims are patentable over the applied references and are in condition for allowance.

Claim 73 is directed to a burner assembly having a base and a burner body. The burner body has a lower portion with a flat first undersurface portion spaced apart from the base and a second undersurface spaced apart from the base and recessed from the first undersurface portion. The second undersurface defines a portion of the interior gas distribution chamber. The upper portion of the burner body has a contoured surface simulating coal members. The burner body is constructed of a material that glows at selected color variations when the fuel gas is ignited. None of the cited references, taken alone or in combination, teach or suggest the claimed burner assembly having the lower portion of the burner body with a flat first undersurface portion spaced apart from the base and a second undersurface portion spaced apart from the base and recessed from the first undersurface portion to define a portion of the interior gas distribution chamber. The only teaching of such a burner assembly is provided by the present application. Accordingly, the four applied references, even if they could be properly combined, still do not teach or suggest each and every feature of the claim. Further, at least for the reasons discussed above, including the discussion regarding claim 64, claim 73 is patentable over the applied references, and is in condition for allowance.

Dependent claims 74, 75, 79, and 80 depend from claim 73. For the above reasons and the features of the claims, these dependent claims are patentable over the applied references and are in condition for allowance.

Claim 81 is directed to a burner assembly with a burner body having upper and lower portions. The lower portion has first and second chamber portions configured to allow the flow of fuel gas to move from the first chamber portion to the second chamber portion. The claim is to clarify that the upper portion of the burner body has a contoured surface with a plurality of peaks and valleys forming a plurality of simulated coal members,

and a portion of the contoured surface forms a simulated log support portion to removably support one or more separate simulated logs adjacent to the simulated coal members. The claim has also been amended to clarify that a plurality of gas distribution apertures extend through the burner body from the lower portion to the contoured surface of the upper portion adjacent to the simulated coal members and adjacent to the simulated-log support member. The burner body is constructed of a material that glows at selected color variations in the simulated coal members when the fuel gas from the gas distribution apertures is ignited adjacent to the contoured surface.

Shimek GB '328 does not teach or suggest a burner assembly having a burner body with an upper portion having a contoured surface forming a plurality of simulated coal members and a portion forming a simulated-log-support portion that supports one or more simulated logs adjacent to the simulated coal members. In fact, Shimek GB '328 teaches the multi-function burner that can be used under a grate that holds the logs above the burner. The reference does not teach or suggest that the burner is constructed with a specific simulated-log-support portion as claimed. Shimek GB '328 further is silent with respect to providing a burner body constructed of a material that glows at selected color variations in the simulated coal members when the fuel gas is ignited adjacent to the contoured surface as claimed. Rosiek and Palau do not correct the deficiencies of Shimek GB '328.

The Examiner cited to Arribas as teaching "a burner body having a lower portion or surface (at 14; figure 3,4) and an upper contoured portion or surface (2a, 2b, 3a, 3b) have a substantially flat portion (3, 3a) forming a simulated-log-support surface adjacent to simulated coal members (3a; figure 2). (emphasis added)" Applicants respectfully disagree with the Examiner's characterization of Arribas. The Examiner is clearing using the present patent application as a blue print to construct an interpretation of the reference to support the obviousness rejection. Arribas teaches a decorative gas fire burner supported on a burner pan 8. The burner of Arribas described and illustrated in Figures 1-4 has an upper portion 3 with integrally formed, simulated logs 2a and 2b connected to the

upper portion. The upper portion of the embodiment shown in Figures 1-4 does not provide a burner body having an upper contoured portion with a substantially flat portion forming a simulated-log-support surface adjacent to simulated to coal members.

The burner of Arribas described and illustrated in Figure 7 has a removable simulated coal bed. The simulated coal bed, however, does not support simulated logs. To the contrary, the coal bed is interchangeable with the simulated logs of Figures 5-6. Arribas provides no teaching or suggestion of providing a simulated coal bed with a simulated-log support portion to support one or more simulated logs adjacent to a simulated coal bed. The only teaching of such a configuration is provided by the present application. Even if the references could be combined, such combination would not teach or suggest each and every feature of the burner assembly as a whole as set forth in claim 81. Any modification to the teachings of other the references to provide the claimed invention would only be apparent upon fully understanding the present invention and applying impermissible hindsight analysis. Therefore, independent claim 81 is patentable over the applied references and is in condition for allowance.

Dependent claims 82-86 depend from claim 81. For the above reasons and the features in the claims, these dependent claims are patentable over the applied references and are in condition for allowance.

Regarding claim 87, the claim is directed to a burner assembly with a non-metallic burner body and at least one simulated log thereon. The burner body has upper and lower portions, and the lower portion has first and second recessed gas distribution chamber portions formed therein. The upper portion has a contoured surface with a simulated ember bed. Claim 87 has been amended to clarify that the burner assembly is for use in a gas fireplace unit, and the first and second recessed gas distribution chamber portions in combination with the first and second gas distribution apertures, respectively, are positioned and configured to direct a flow of the fuel gas to the contoured upper surface with at least first and second flow rates of fuel gas for ignition in the gas fireplace unit to

provide flames having at least first and second flame characteristics different from each other and that move relative to the contoured upper surface and about the simulated log in a manner that simulates a natural wood-burning fire.

At least for the reasons discussed above, none of the references, taken alone or in combination, teach or suggest a burner assembly with a burner body and at least one simulated log thereon as set forth in claim 87. Shimek GB '328, as discussed above, teaches a dual-purpose portable indoor/outdoor burner that is not configured to support a simulated log thereon. Further, at least Shimek GB '328 and Rosiek teach away from the claimed burner assembly for the reasons discussed above. Palau was cited for the basis of teaching of providing shades of varying brightness as a result of the temperature difference. Arribas was cited to teach a simulated-log support surface. The other three references do not correct the deficiencies of the primary reference. Even if the references could be combined, the resulting combination would still not teach or suggest the burner assembly of claim 87. The only teaching or suggestion of any modifications to achieve the claimed burner assembly is provided in the present invention. Therefore, Applicants respectfully submit that claim 87 is patentable over the applied references and is in condition for allowance.

Claims 88-92 depend from claim 87. For the above reasons and the features in the claims, these dependent claims are also patentable over the applied references. Further, regarding claim 91, this dependent claim is directed to the burner assembly of claim 87 wherein the base is spaced apart from the burner and a gasket is positioned between the burner body and the base. As discussed above, none of the applied references teach or suggest spacing the burner body apart from the base with a gasket positioned between the burner body and the base. The applied references are simply silent with respect to such a configuration. Accordingly, the applied references, taken alone or in combination, do not teach or suggest each and every feature of the claim, and any modification to provide such a feature would only be apparent after understanding the present invention and applying

impermissible hindsight analysis. Therefore, claim 91 is patentable over the applied references and is in condition for allowance.

Claim 94 has been amended and is directed to a burner assembly for use in a gas fire place unit for burning a fuel gas from a gas source. The burner assembly has a base configured to be positioned within the gas fireplace unit. A non-metallic burner body has a lower portion with a recessed area, and the burner body is spaced apart from and sealably coupled to the base to form a recessed gas distribution chamber. The upper portion of the burner body has the contoured surface that forms simulated coal members and a simulated-log-support surface. The burner body's gas distribution apertures and recessed gas distribution chamber together are configured to direct the fuel gas to the contoured surface with at least first and second fuel flow rates for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. The contoured surface, the recessed gas distribution chamber and gas distribution apertures are configured together to create flames that move relative to the contoured surface of the burner body and simulate a natural wood-burning fire. A simulated log is supported by the simulated-log-support surface adjacent to the simulated coal members. The burner body also glows at selected color variations in the simulated coal members to simulate a burning and glowing coal ember bed in the base of a fire when the fuel gas is ignited adjacent to the contoured surface.

The only teaching of such a burner assembly for a gas fireplace unit is provided by the present invention. Shimek GB '328, as discussed above, teaches a stand-alone dual-purpose portable indoor/outdoor burner not configured to support a simulated log thereon. As discussed above, at least Shimek GB '328 and Rosiek teach away from the claimed burner assembly with the gas distribution apertures positioned and configured in combination with the recessed gas distribution chamber to direct the fuel gas to the contoured surface with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each. Palau was cited for the basis of teaching of providing shades of



varying brightness as a result of the temperature difference. Arribas was cited to teach a simulated-log support surface. None of these other cited references correct the deficiencies in the primary reference.

Applicants respectfully submit that the four applied references, taken alone or in combination, do not teach or suggest a burner assembly with each and every element of claim 94. For example, the references do not teach or suggest the non-metallic burner body with a lower portion having a recessed area, wherein the burner body is spaced apart from and sealably coupled to the base to form a recessed gas distribution chamber as claimed. The Examiner asserted that Shimek GB '328 teaches a bead of silicon adhesive acts as a spacer. As discussed above, the actual teaching and suggestions of the reference do not support such interpretation of the reference. The three other cited references do not correct the deficiency of the primary reference. Further, the references, taken alone or in combination, do not teach or suggest the claimed burner body having the upper portion of the burner body with gas distribution apertures positioned and configured in combination with the recessed gas distribution chamber to direct the fuel gas to the contoured surface with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each. The four references taken alone or in combination also do not teach or suggest a burner body with the contoured surface, the recessed gas distribution chamber and gas distribution apertures is configured to create flames that move relative to the contoured surface of the burner body and simulate a natural wood-burning fire. The only teaching or suggestion of any modifications to achieve the claimed burner assembly is provided in the present application. Therefore, Applicants respectfully submit that claim 94 is patentable over the applied references and is in condition for allowance.

Claims 95, 96 and 98 depend from claim 94. For the above reasons and the features of the claims, these dependent claims are patentable over the applied references and are in condition for allowance. Further, dependent claim 96 includes a base that has a generally flat top surface and a separator is positioned between the top surface and the

burner body to support the burner body away from the top surface. The references are silent with respect to such a separator. The only teaching of such a separator is provided by the present application. Therefore, even if the four applied references could be properly combined, they still do not teach each and every feature of the burner assembly of claim 96. Therefore, this claim is patentable over the applied references and is in condition for allowance.

Claim 99 is directed to a burner assembly with a burner pan, a separator, and a burner body. The claim is to clarify that the burner body is out of direct engagement with the burner pan with the lower portion of the burner body being supported apart from the burner pan by the separator forming a gas distribution chamber between the burner pan and the burner body. The plurality of gas distribution apertures and the gas distribution chamber are configured to direct a flow of the fuel gas from the gas distribution chamber to the contoured surface with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other for ignition adjacent to the simulated coal members. The burner body is constructed of a material that glows at selected color variations in the simulated coal members to simulate a burning and glowing coal ember bed in the base of a fire when the fuel gas is ignited adjacent to the contoured surface.

The only teaching of the burner assembly as claimed with such a configuration is provided by the present application. For the reasons discussed above, the four cited references, taken alone or in combination, do not teach or suggest each and every element of the claim. Shimek GB '328 does not teach or suggest a burner assembly as claimed. Shimek GB '328 teaches a multi-function burner that has a ceramic fiber top fixed to a base unit to provide a hollow manifold. The burner of Shimek GB '328 does not teach or suggest a burner assembly with the separator as claimed. Shimek GB '328 also does not teach or suggest the burner assembly with the gas distribution chamber and the gas distribution apertures configured to direct a flow of the fuel gas from the gas distribution chamber to the contoured surface with at least first and second flow rates of fuel for

ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other for ignition adjacent to the simulated coal members. Shimek GB '328 teaches away from such a construction, and the three other cited references do not correct the deficiencies of the primary reference. The references fail to teach or suggest all of the modifications that would be needed to provide the claimed burner assembly. Accordingly, the cited references can not support a *prima facie* obviousness rejection. Therefore, claim 99 is patentable over the applied references and is in condition for allowance.

Claims 100-104 and 106-110 depend from claim 99. For the above reasons and the features of these claims, these dependent claims are also patentable over the applied references and are in condition for allowance.

Regarding claim 111, the claim is directed to a burner assembly with a base, a separator adjacent to the base, and a burner body having upper and lower portions wherein the lower portion of the burner body is spaced apart from the base by the separator with a gas distribution chamber therebetween and configured to receive a flow of fuel gas from the gas source. The lower portion of the burner body has a flat undersurface generally parallel to the base and the lower portion has a recessed under portion spaced apart from the base and recessed from the burner body's flat undersurface portion. The recessed under portion defines a portion of the gas distribution chamber. The upper portion of the burner body has a contoured surface forming simulated burning members and a plurality of gas distribution apertures extend through the burner body to the contoured upper surface.

None of the applied references, taken alone or in combination, teach or suggest a burner assembly with such a configuration having a base, a separator adjacent to the base, and the burner body as claimed. None of the references teach or suggest a burner assembly having a burner body with a lower portion spaced apart from the base of a burner pan by the separator and wherein the lower portion of the burner body has the flat

undersurface portion and a recessed under portion spaced apart from the base and recessed from the burner body's flat undersurface portion. The references are simply silent with respect to such a configuration. The only teaching or suggestion of such a configuration is provided by the present application. Accordingly, even if the references could be properly combined, they still do not teach or suggest each and every feature of the burner assembly of claim 111. Therefore, the claim is patentable over the applied references and is in condition for allowance.

Dependent claims 112-118 depend from claim 111. For the above reasons and the features of the claims, these dependent claims are patentable over the applied references and are in condition for allowance.

Claim 119 is directed to a burner assembly with a burner body spaced apart from the base forming a gas distribution chamber therebetween, and the gas distribution chamber has first and second chamber portions in fluid communication with each other and positioned to receive the fuel gas therein. Gas flow distribution surfaces extend between the first and second chamber portions and are configured to direct at least a portion of the fuel gas from the first chamber portion to the second chamber portion. The burner body is configured to support the simulated log on the contoured surface. The claim is to clarify that the plurality of gas distribution apertures in the through the burner body and the first and second chamber portions are configured to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. At least a portion of the contoured upper surface of the burner body and the gas distribution apertures are configured to provide flames that move about to the contoured upper surface and the simulated log in a manner that simulates a natural wood-burning fire when the fuel gas is ignited adjacent to the upper surface and the simulated log.

For the reasons discussed above, Applicants respectfully submit that the four applied references, taken alone or in combination, can not be properly combined to form the basis of an obviousness rejection. Further, the applied references do not teach or suggest each and every feature of the burner assembly as set forth in claim 119 as claimed. Any modification of the applied references to provide such a burner assembly would only be apparent to one skilled after understanding the present invention and applying impermissible hindsight analysis. Therefore, Applicants respectfully submit that claim 119 is patentable over the applied references and is in condition for allowance.

Claims 120 and 121 depend from claim 119. For the reasons discussed above and the features of these claims, claims 120 and 121 are patentable over the applied references and are in condition for allowance.

Claim 122 is directed to a burner assembly having a burner body with a recessed gas distribution chamber having a first chamber portion space apart from a second chamber portion and interconnected therewith by an intermediate chamber portion smaller than the first and second chamber portions. The first chamber portion is positioned to receive a flow of fuel gas therein directly from the fuel gas inlet so the fuel gas is distributed from the first chamber portion through the intermediate chamber portion to the first chamber portion. The claim is to clarify that the plurality of gas distribution apertures and the first and second chamber portions are configured to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. The burner body is constructed to provide flames that move relative to the simulated log in a manner that resembles a natural wood-burning fire when the fuel gas is ignited in the gas fireplace unit.

None of the four cited references, taken alone or in combination, teach or suggest a burner assembly as claimed with a burner body that has a recessed gas distribution chamber with a first chamber portion positioned to receive a flow of fuel gas therein directly

from the fuel gas inlet so the fuel gas is distributed from the first chamber portion through an intermediate chamber portion to the second chamber portion. The references are also silent regarding a plurality of gas distribution apertures and the first and second chamber portions configured to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. The only teaching or suggestion of such a configuration is provided by the present application. Accordingly, the four applied references do not teach or suggest each and every feature of the burner assembly as claimed, and the references can not support a *prima facie* obviousness rejection. Any modification of the applied references to provide such a burner assembly would only be apparent after understanding the present invention and applying impermissible hindsight analysis. Therefore, Applicants respectfully submit that claim 122 is patentable over the applied references and is in condition for allowance.

Claims 123-125 depend from claim 122. For the reasons set forth above and the features of the claims, these dependent claims are patentable over the applied references and are in condition for allowance.

Claim 128 is directed to a burner assembly with, *inter alia*, a base, a burner body with a lower portion sealably coupled to the base to form a gas distribution chamber wherein the lower portion of the burner body has first and second chamber portions configured to allow the flow of fuel gas to move from the first chamber portion to the second chamber portion. The upper portion of the burner body has a contoured surface simulating coal members and a portion forms a simulated log support portion to support one or more simulated logs adjacent to the simulated coal members. The burner assembly includes a separator between the base and the burner body that separates the burner body from the base. For the reasons discussed above, the four cited references, even if they could be combined, still do not teach or suggest each and every feature of the claim. Accordingly, the references can not support a *prima facie* obviousness rejection.

Therefore, claim 128 is patentable over the applied references and is in condition for allowance.

Dependent claims 129 and 130 depend from claim 128. For the above reasons and the features in the claims, these claims are patentable over the applied references and are in condition for allowance.

Claim 131 is directed to a burner assembly for use with a gas fireplace unit and for burning a fuel gas from a gas source. The burner assembly has a burner body with upper and lower portions and a spacer between the lower portion of the burner body and the assembly's base. The upper portion of the burner body has a contoured surface forming simulated coal members, and the upper surface has a simulated-log support portion to support one or more logs adjacent to the simulated coal members. The lower portion of the burner body is sealably coupled to the base to form a gas distribution chamber having a first chamber portion and a second chamber portion configured to allow the flow of fuel gas to move from the first chamber portion to the second chamber portion. The claim is amended to clarify that the plurality of gas distribution apertures and the first and second chamber portions are configured to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. The burner body is constructed of a material that glows at selected color variations in the simulated coal members when the fuel gas is ignited in the gas fireplace unit adjacent to the contoured surface.

As discussed above, none of the applied references, taken alone or in combination, disclose or teach a burner assembly with a base, a burner body with the lower portions as claimed, and a spacer assembly between the lower portion of the burner body and the base. The references do not teach or suggest the claimed upper portion of the burner body with the plurality of simulated coal members, and the portion forming the simulated log support portion to support one or more simulated logs adjacent to the simulated coal.

The references also fail to teach or suggest the plurality of gas distribution apertures and the first and second chamber portions configured to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. Accordingly, for the reasons discussed above, the four applied references can not support a *prima facie* obviousness rejection. Therefore, claim 131 is patentable over the applied references and is in condition for allowance.

Claims 132-134 depend from claim 131. Applicants respectfully submit, for the above reasons and the features in the claims, that claims 132-134 are also patentable over the cited references and are in condition for allowance.

Claim 135 is directed to a burner assembly having a burner body with a lower portion that has a recessed gas distribution chamber integrally formed therein. The upper portion of the body has a simulated log thereon and a contoured surface having integral peaks and valleys resulting in a burner body having different thicknesses between the recessed gas distribution chamber and the contoured surface. The burner body has gas distribution apertures having a plurality of different heights. The claim is amended to clarify that the gas distribution apertures and the gas distribution chamber are configured to direct a flow of the fuel gas to the contoured surface of the upper portion of the burner body with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. The burner body is configured to distribute fuel gas to the upper portion and around the simulated log to provide a flame having color variations and movements that simulate a natural wood burning fire.

None of the applied references disclose, teach, or suggest a burner assembly with each of the features as recited in claim 135 at least for the reasons discussed above. In addition, the references are silent with respect to a burner body as claimed having a



recessed gas distribution chamber formed integrally therein and having different thicknesses between the recessed gas distribution chamber and a contoured surface. Such a configuration of the burner body with the different thicknesses and the gas distribution apertures as set forth in the claim helps allow for fuel gas to be distributed to the upper portion and around the simulated log to provide the color variations and movements that simulate the natural wood burning fire. The references are also silent about gas distribution apertures and an integral recessed gas distribution chamber being configured to direct a flow of the fuel gas to a contoured surface of a burner body with at least first and second flow rates of fuel for ignition adjacent to the contoured surface to provide flames with at least first and second flame characteristics different from each other. The applied references further provide no teaching or suggestion of the claimed combination of features of claim 135 to provide a flame with color variations and movements that simulate a natural wood burning fire as set forth in claim 135. In fact Shimek GB '328 teaches away from such a configuration. Even if the applied references could be properly combined, the references taken alone or in combination fail to teach each and every feature as recited in claim 135. Any modification of the teaching of the applied references to provide the burner assembly of claim 135 would only be apparent after understanding the present invention and applying impermissible hindsight analysis. Therefore, claim 135 is patentable over the cited references and is in condition for allowance.

Claims 139-141 depend from claim 135. Applicants respectfully submit, for the above reasons and the features in the claims, that claims 139-141 are also patentable over the cited references and are in condition for allowance.

Claim 142 is directed to a burner assembly having a base, a separator adjacent to the base, and a burner body with a lower portion spaced apart from the base by the separator with a gas distribution chamber therebetween and configured to receive a flow of fuel gas from a gas source. The lower portion of the burner body of the claim has a flat undersurface portion generally parallel to the base. The lower portion has a recessed

under portion spaced apart from the base and recessed from the burner body's flat undersurface portion. Further, the burner body of claim 142 has an upper portion with a contoured surface forming simulated burning members and a selected group of gas distribution apertures are concentrated relative to each other to provide a selected flame shape when the fuel gas flowing through the concentrated group of gas distribution apertures is ignited adjacent to the upper portion of the burner body. The burner body is constructed of a material that glows at selected color variations when the fuel gas is ignited adjacent to the contoured surface. A simulated log is adjustably positioned on the burner body adjacent to the simulated burning members. At least for the reasons discussed above, none of the applied references, taken alone or in combination, teach or suggest a burner assembly with each and every feature as set forth in claim 142. Even if the applied references could be properly combined, they do not teach each and every feature of the burner assembly of claim 142 with the base, the separator, and the burner body with the lower portion as set forth in the claim. Accordingly, the four references can not support a *prima facie* obviousness rejection of claim 142. Therefore, claim 142 is patentable over the applied references and is in condition for allowance.

Claims 143-146 depend from claim 142. For the reasons discussed above and the features of the claims, these dependent claims are patentable over the applied references and are in condition for allowance.

E. Rejection of Claims 60, 78, 93, 97, 126, 127 and 136-138 under 35 U.S.C. § 103

Claims 60, 78, 93, 97, 126, 127 and 136-138 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimek GB '328 in view of Rosiek and Palau and Arribas, and further in view of Shimek et. al or Whittaker. These rejected claims are directed to burner assemblies with, *inter alia*, combustion air holes extending through the burner body and being out of fluid communication with the gas distribution chamber. Applicants respectfully submit, for the reasons set for the above and the features in the claims, that these claims are patentable over the six applied references. Shimek GB '328,

Rosiek, Palau, and Arribas, taken alone or in combination, do not teach or suggest the claimed burner assemblies as claimed for the reasons discussed above. Shimek et al or Whittaker do not correct the deficiencies of these references.

Further, Shimek GB '328 teaches the portable, multi-function burner/stove/grill that has the ceramic fiber top sealed to the base unit to provide the hollow manifold. Neither Rosiek, nor Palau, nor Arribas provides a teaching or suggestion of providing combustion air holes in the ceramic top as claimed. Any modification of the references to provide a combustion air hole would only be apparent to one skilled in the art after understanding the present invention and applying impermissible hindsight analysis and by using the present application as a blue print for piecemeal construction of elements the prior art. The references also fail to provide the suggestion of motivation to combine the features of six references. Further, even if the six references could be combined, the resulting combination would still fail to teach or suggest each and every feature of the burner assembly as claimed. Accordingly, Applicants respectfully submit that the six cited references can not support *prima facie* case of obviousness. Therefore, the claims are patentable over the six applied references and are in condition for allowance.

F. Rejection of Claims 57, 76, 77, and 105 Under 35 U.S.C. § 103

Claims 57, 76, 77, and 105 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shimek GB '328 in view of Rosiek and Palau and Arribas, and further in view of Smith. Smith is directed to apparatus for generating infrared radiation. The infrared generators of Smith generally have a felted fiber matrix pad through which a gaseous combustion mixture is passed to emerge from one surface and to burn at that surface to heat the surface to incandescence and thus generate infrared energy. Smith does not correct the deficiencies of the primary, secondary, tertiary and quaternary references. Further, the combination of the five references to support the obviousness rejection is based upon a piecemeal construction of features of five different patents using the present application as a blue print for such construction and with the benefit of

impermissible hindsight analysis in an effort to provide a burner assembly as claimed in the present application. Applicants respectfully submit that, even if the references could be properly combined, the five applied references still do not teach or suggest a burner assembly with each and every element as recited in the claims. Such piecemeal construction of the prior art can not support a Section 103 rejection. Therefore, in view of all of the arguments set forth above, Applicants respectfully submit that claims 57, 76, 77, and 105 are patentable over the applied references and are in condition for allowance.

G. Conclusion

In view of the above amendment, the pending application, including all pending claims, is in condition for allowance. Applicants therefore request reconsideration of the application and an allowance of all pending claims. If the Examiner wants to discuss the above amendments or any other issue, the Examiner is encouraged to call Robert G. Woolston at (206) 359-3259. Additionally, if the Examiner notices any informalities in the application, he is encouraged to contact Mr. Woolston to expediently correct any such informalities.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0665, under Order No. 243148001US3 from which the undersigned is authorized to draw.

Dated: 2/14/07

Respectfully submitted,

By 

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